

# PATENT SPECIFICATION

Inventor: ELOF ISIDOR ASPLUND

703.120



Date of Application and filing Complete Specification: Nov. 9, 1951.

No. 26295/51.

Complete Specification Published: Jan. 27, 1954.

Index at acceptance:—Class 44, B2A.

## COMPLETE SPECIFICATION

### Espagnolette Locking Device

EMANUEL CARLSON, operating disk with a handle member, said  
bolt rods being adjustable into three differ-  
ent positions with a first position

## ERRATA

SPECIFICATION No. 703.120

Page 1, line 87, for "top parts" read  
"top part";  
Page 2, line 33, for "framework" read  
"framework"

THE PATENT OFFICE,  
26th February, 1954.

- also provided with a
- 25 turnable catch within the area of the  
said catch when in the locking position  
being introduced into a corresponding  
recess in the framework surrounding the  
window, door or the like.
- 30 Double windows, doors and the like  
fitted with the above-mentioned known  
espagnolette locking device have been  
provided hitherto with a separate lock  
independent of said espagnolette device
- 35 and intended for the coupling of the  
window-sashes or the doors. Now, the  
present invention relates to an espagnolette  
mechanism which is also adapted to couple  
said sashes and doors respectively.
- 40 The present invention refers to an  
espagnolette locking device for double  
window-sashes, doors and the like and  
provided with a coupling combined with a  
mounting, such as a corner iron, said
- 45 coupling consisting of two bolt rods  
adapted to be actuated by means of an  
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- distance between the coupling bolt  
plates that the coupling bolt  
slide in the slot will touch the same in the  
locking position, so that an intermediate  
space is obtained between the sashes (for  
giving space for applying a paint layer).  
The centering pins are provided with  
shoulders of a height of 1.5 millimeters,  
for example, serving as abutments for the  
coupling plates. The slots in the coupling  
plates are so arranged that, when the bolt  
rods are adjusted into the first position  
(the locking position) and into the second  
position (the opening position), their  
coupling bolts will be guided, with the  
sides of the top parts of the end portion  
sliding against the edges of the slots which  
serve as guides therefor, whereas in the third  
position of the coupling rods, wherein the  
window-sashes are disengaged, said coupling  
bolts will be released in an enlarged
- 75  
80  
85  
90

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## COMPLETE SPECIFICATION

### Espagnolette Locking Device

I, CARL RUBEN EMMANUEL CARLSON, a Swedish Subject, of Nygatan 31, Strängnäs, Sweden, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention refers to an espagnolette locking device adapted for windows, doors and the like.

It consists in known manner of two bolt rods actuated through the intermediary of bolt links and an operating disk by means of a handle member. The bolt links are pivotally secured to the inner ends of the bolt rods and to the operating disk, the bolt links and the operating disk being arranged in a lock housing. Alternatively the bolt rods may be actuated in known manner by a gear wheel cooperating with toothed racks formed on the inner parts of the bolt rods. One of the bolt rods is also provided in known manner with a turnable catch within the lock housing, said catch when in the locking position being introduced into a corresponding recess in the framework surrounding the window, door or the like.

Double windows, doors and the like fitted with the above-mentioned known espagnolette locking device have been provided hitherto with a separate lock independent of said espagnolette device and intended for the coupling of the window-sashes or the doors. Now, the present invention relates to an espagnolette mechanism which is also adapted to couple said sashes and doors respectively.

The present invention refers to an espagnolette locking device for double window-sashes, doors and the like and provided with a coupling combined with a mounting, such as a corner iron, said coupling consisting of two bolt rods adapted to be actuated by means of an

operating disk with a handle member, said bolt rods being adjustable into three different positions, to wit, a first position involving a locking position relatively to the double window sashes or the like and a frame surrounding the same, a second position involving an opening position relatively to said sashes or the like and the surrounding frame, and a third position involving mutual disengagement of the window-sashes or the like, said bolt rods being arranged in the side of the inner sash facing the outer sash and provided with coupling bolts adapted to co-operate with slots in coupling plates or the like secured to a window-sash or the like intended to be coupled to the sash having the espagnolette locking device mounted thereon. The invention is principally distinguished by the feature that the slots in the coupling plates are wedge-shaped or dove-tailed in cross-section or with parallel sides, which slots are each furnished with a plate serving as a bottom plate in the slots, said bottom plate being so arranged at some distance from the surface of the coupling plates that the coupling bolt adapted to slide in the slot will touch the same in the locking position, so that an intermediate space is obtained between the sashes (for giving space for applying a paint layer). The centering pins are provided with shoulders of a height of 1.5 millimeters, for example, serving as abutments for the coupling plates. The slots in the coupling plates are so arranged that, when the bolt rods are adjusted into the first position (the locking position) and into the second position (the opening position), their coupling bolts will be guided, with the sides of the top parts of the end portion sliding against the edges of the slots which serve as guides therefor, whereas in the third position of the coupling rods, wherein the window-sashes are disengaged, said coupling bolts will be released in an enlarged

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end portion of the slot.

The coupling bolts are preferably T-shaped or approximately V-shaped in cross section.

- 5 A suitable form of embodiment of the invention is illustrated in the accompanying drawing.

Fig. 1 shows the device in its locking position.

- 10 Fig. 2 shows the same device in its opening position, that is to say, where the window-sashes or doors while being still coupled together can be opened. Fig. 3 shows the mutual position of the details

- 15 when the window-sashes or the like are disengaged from one another. Figs. 1a, 2a and 3a show corresponding positions of the coupling bolt on a bolt rod relatively to a cooperating slot. Fig. 4 is a general representation of the espagnolette locking device as it appears when viewed from the side thereof. Fig. 5 shows a coupling bolt of a T-shaped section, and Fig. 6 shows a coupling bolt of an approximately V-shaped section.

- 20 In the drawing, 1 designates the bolt rods, 2 the bolt links, 3 the operating disk, 4 a square head for the handle member of the operating disk, 5 the pivoted lock catch, which in the locking position according to Fig. 1 is shown as being projected through an opening in the lock housing 6 and into a recess in the framework of the lock housing, not shown in the drawing.

- 25 7 designates the coupling bolts, 8 the coupling plates cooperating with the coupling bolts, 9 the slots provided in the coupling plates, 10 the centering pins for the sashes, 11 the recesses cooperating with the centering pins, and 12 the plate serving as a bottom on which the end portion of the coupling bolt slides.

- 30 The coupling bolts 7 may be of a T-shaped section, as shown in Fig. 5, or they may be approximately V-shaped, as shown in Fig. 6. In the latter case, the coupling plates 8 are adapted to this shape of the coupling bolts.

- 35 The slots 9 in the coupling plates are of a wedge-shaped or dove-tailed cross section, as shown in Fig. 6 or they are parallel sided as shown in Fig. 7, and said slots are so arranged that the coupling bolts 7 will, during their movement in these slots from the locking position, slide with their end portion over the edges thereof serving as guides, in order to leave the slot, in the third position, in an enlarged portion of the slot.

- 40 The centering pins 10 are provided with shoulders of a height of approximately 1.5 millimeters and serving as abutments for the coupling plates.

- 45 In the closed position, the bolt rods 1, 65 the pivoted lock catch 5 and the coupling

bolts 7 will take the position shown in Fig. 1 and in Fig. 1a, respectively. In the opening position, when the window-sashes or the like are still coupled while permitting of being opened in their entirety, said members take the positions shown in Figs. 2 and 2a. It is obvious that these different positions of adjustment are provided by the operating disk 3 being turned by means of the handle member (not shown). Now, if it is desired to disengage the coupled window-sashes or the like from one another, the operating disk 3 is turned further in the same direction into a third position of adjustment (Figs. 3 and 3a), the coupling bolts 7 being thus brought into a position such that said bolts may be disengaged from the coupling plates 8 owing to the location of the slots 9 provided therein.

The operation of the bolt rods may be effected in any known manner.

Figs. 7 and 8 show a mounting arranged in a somewhat different way, which mounting may be made integral with the corner fastening of the window-sash, as shown in Fig. 7. Generally, one such mounting is arranged at the top and another at the bottom of the closure side of the window sashes. The mounting 8 is provided with a recess having a rectangular plate 15 arranged therein, said plate being displaceably secured by means of screws and oval screw holes to two slide plates 14 arranged at the end portions of the plate 15, so that the latter may be displaced laterally back and forth against the action of two springs 13. The opposed lateral edge of the plate has three semi-round recesses provided therein, the uppermost recess being somewhat larger than the other recesses. On this side, the mounting 8 is also provided with an additional elongated recess 9, in which the pin 7 slides back and forth when the window is being closed and opened. When the pin is located in the upper position 7<sup>1</sup>, the sashes may be moved apart, for instance for the purpose of cleaning the insides of the window panes. Otherwise, the mode of operation of the mounting is believed to be readily understood from the appearance of the mounting.

Here, the pin or coupling bolt 7 may also serve as a carrying and centering pin. By dimensioning the length thereof in a suitable manner, it also serves to keep the sashes somewhat apart to facilitate applying paint or the like thereto.

What I claim is:—

1. An espagnolette locking device for coupled window-sashes, doors or the like and having a coupling combined with mountings, such as corner irons, consisting of two bolt rods adapted to be actuated by means of an operating disk, said bolt

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rods being adjustable into three different positions by means of the operating disk and/or a handle member arranged thereon, the first of said positions constituting the locking position and the second position the opening position of the espagnolette locking device, while the third position constitutes the position of disengagement of the window-sashes (door leaves), characterised in that the corner irons are each provided with a slot of a wedge-shaped or dove-tailed cross section or with a slot with parallel sides, said slots cooperating, for the purpose of coupling the sashes, with coupling bolts rigidly arranged on the bolt rods, said coupling bolts being adapted to slide in and to engage said slots which are each provided with a plate serving as bottom plate in the slot, said bottom plate being so arranged at some distance from the surface of the coupling plate that the coupling bolt sliding in the slot will touch said bottom plate in the locking position and keep the sashes together in this position at a small mutual distance, besides which the slots are formed in a manner such that the coupling bolts will, at the displacement of the bolt rods from the locking position toward the opening position, slide between the edges of the slots which serve as guides, while disengagement of the window-sashes will be obtained when the coupling bolts are displaced further in the direction of the displacement from the locking position

toward the opening position and past this latter position, the bolts then entering enlarged portions of said slots for the release of the bolts and the disengagements of the sashes from each other.

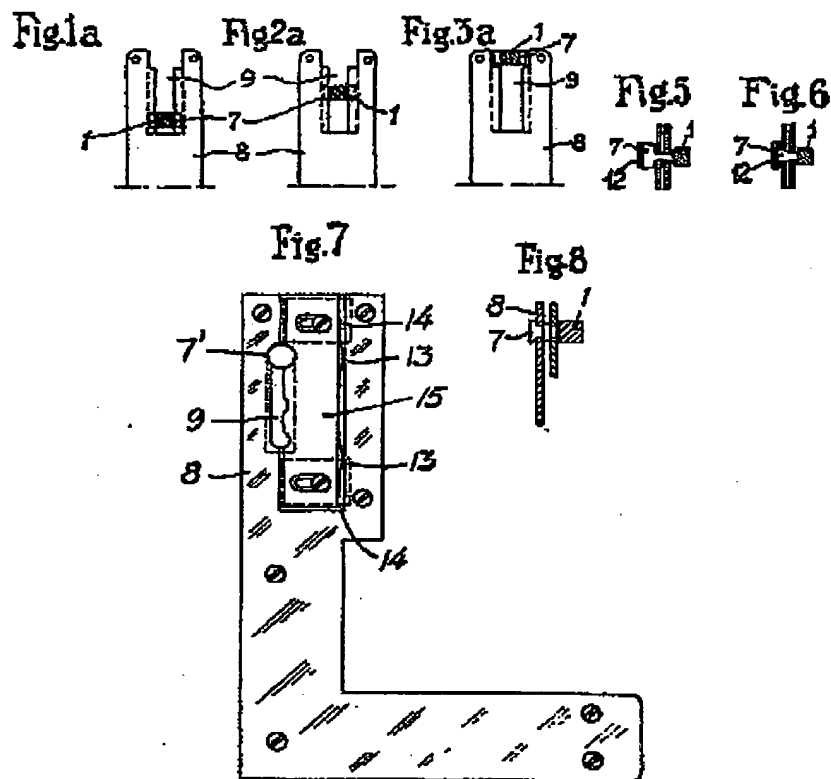
2. An arrangement according to claim 1, characterised in that the corner consists of a mounting provided with a recess for a preferably spring-actuated plate adapted to be displaced laterally back and forth, said plate being provided at one side edge thereof with a plurality of lateral recesses, preferably three of them, at least one of said recesses being somewhat larger than the other recesses for the release of the coupling bolt in a certain position, said recesses forming, in cooperation with a slit-like slot arranged laterally of the recess of the mounting, a slot in which the coupling bolt moves back and forth at the actuation of the espagnolette locking device when the window is being opened and closed, said lateral recesses corresponding to the position of the coupling bolt in different positions of the locking mechanism of the espagnolette device.

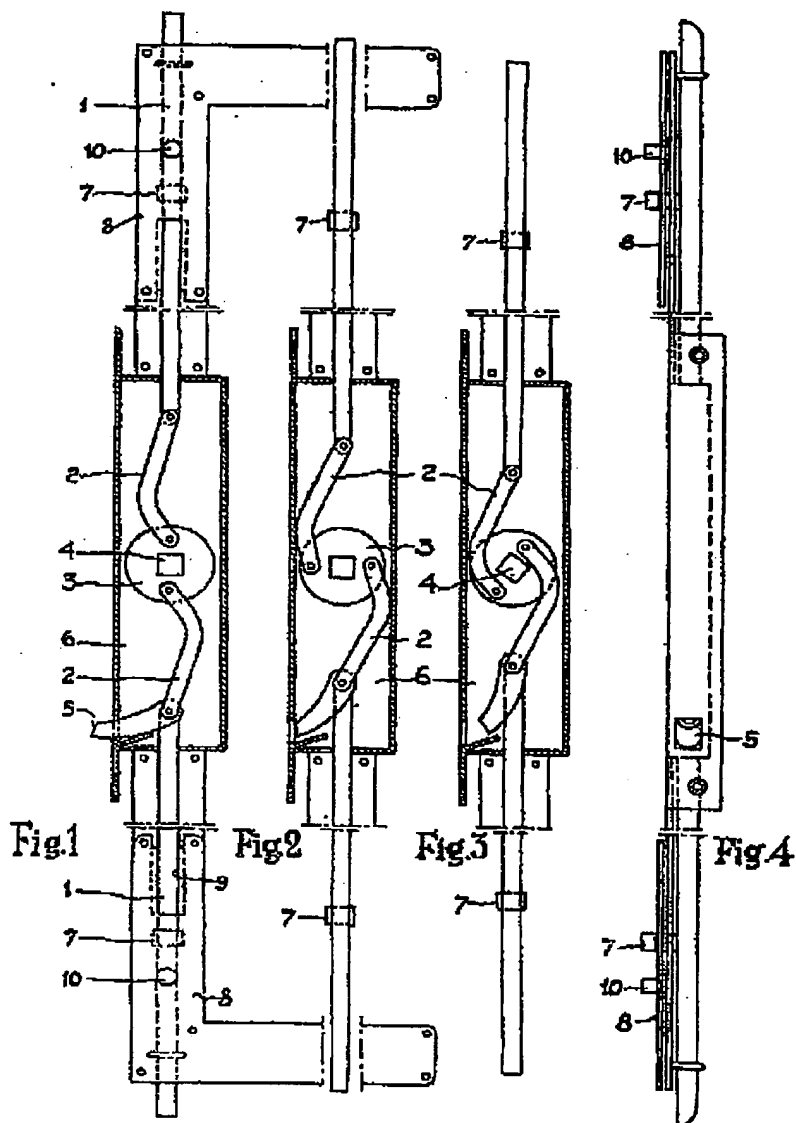
3. An espagnolette locking device substantially as hereinbefore described and shown in the accompanying drawings.

H. D. FITZPATRICK & CO.,  
Chartered Patent Agents,  
27, Chancery Lane, London, W.C.2,  
and  
94, Hope Street, Glasgow.

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**703.120 COMPLETE SPECIFICATION**  
**2 SHEETS** This drawing is a reproduction of  
the Original on a reduced scale.  
**SHEETS 1 & 2**





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